A NEW SPECIES OF WESTERN ATLANTIC ARMORED SEAROBIN, *PERISTEDION GREYAE* (PISCES: PERISTEDIIDAE)[1]

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ABSTRACT

A new species of armored searobin, *Peristedion*, from the western Atlantic Ocean is described. It is distinguished from *P. antillarum* in having more numerous lip and chin barbels, shorter and broader rostral exsertions, and a spinous, serrated perifacial rim, and from all other western Atlantic species in having two or three serrated ridges on the mandible. Methods and terminology are revised and clarified. Taxonomic problems resolved are: *Acanthostedion* = *Satyrichthys*, *Peristedion spiniger* = *P. truncatum*, *P. bartschi* = *P. longispatha*, *P. taeniopterum* = *P. gracile*, *P. mcgintyi* = *P. miniatum*, and *P. schmitti* = *P. thompsoni*. "Acanthostedion" is proposed to describe the postlarval stages of peristediids. *P. ecuadorensis* does not occur in the Pacific; its type locality is corrected to the western Atlantic.

INTRODUCTION

During exploratory fishing, the U. S. Fish and Wildlife Service vessels caught many armored searobins, *Peristedion* Lacépède, 1802, in the western North Atlantic. Study of the vast amount of new material led me to differ with the conclusion drawn by Teague (1961). The most common species of *Peristedion* collected in the western Atlantic, formerly identified as *P. longispatha* (Goode & Bean, 1886) using existing artificial keys to the species, is here described as a new species.

A brief discussion of the ontogenetic changes between postlarval and juvenile stages is necessary because specimens in these stages have been described as nominal species. The larvae of *Peristedion* are pelagic, metamorphosing into postlarvae before they become benthic juveniles. The postlarvae may be distinguished by their long parietal spines (= occipital spines of Fowler, 1943:76), short, developing rostral exsertions, and incomplete development of the scutes. The postlarva of some species may not metamorphose until between 40 and 60 mm standard length (SL). Teague (1961) apparently was unaware of this metamorphosis, as he failed to comment on three of Fowler's (1952) western Atlantic species, *Peristedion mcgintyi*, *P. thompsoni*, and *P. taeniopterum*, two named from postlarvae and one from a small juvenile. In examining types of these species I found that *P. mcgintyi* is a postlarval form and a junior synonym

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of *P. miniatum* (Goode, 1880), based on the distinctive perifacial rim and the 3+2+2+2:3+2+2+2 chin barbel counts of the paratypes; *P. taeniopterum* is a small juvenile and junior synonym of *P. gracile* Goode & Bean, 1896 based on the long, very narrow dorsal ridge of the preopercle; and *P. thompsoni*, a postlarval stage, is a senior synonym, and *P. schmitti* Teague, 1961, a junior synonym, on the basis of the perifacial rim terminating in an elongated flat spine, having low inferomedian scute counts (20-21), lacking nasal spines (present in postlarvae of *P. platycephalum* (Goode & Bean, 1886)), and having a small accessory spine at the posterior termination of the perifacial rim.

I determined that the description of *Acanthostedion* Fowler, 1943, is based on postlarvae and juveniles, and that the genus is congeneric with *Satyrichthys* Kaup, 1873. The five dorsal spines designated for the genotype, *Acanthostedion rugosum* Fowler, 1943 (USNM 99501), was based upon a damaged specimen; three paratypes (USNM 99502) which I examined had seven dorsal spines. I propose that the name "acanthostedion" be applied to the postlarval stage of peristediids having long parietal spines and developing rostral exsertions, and that this stage is comparable to the "tholichthys" stage of the Chaetodontidae, the "acronurus" of the Acanthuridae, and the "rhynchichthys" of the Holocentridae.

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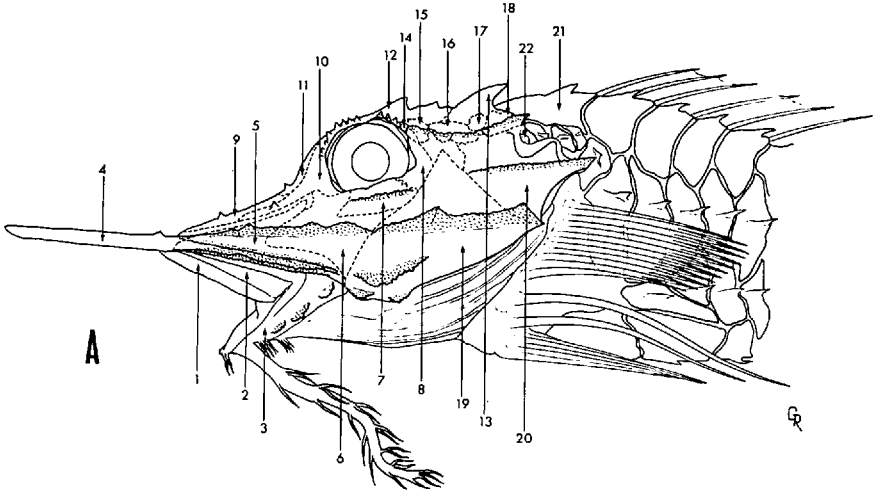
Methods, Terminology, and Abbreviations

Procedure.—I found that meristic and morphometric data in many peristediid type descriptions were incomparable because the terminology and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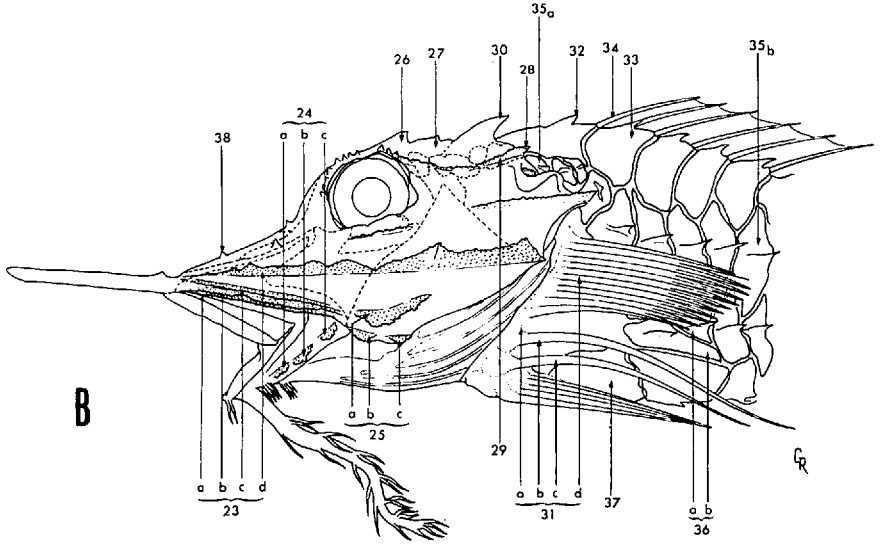
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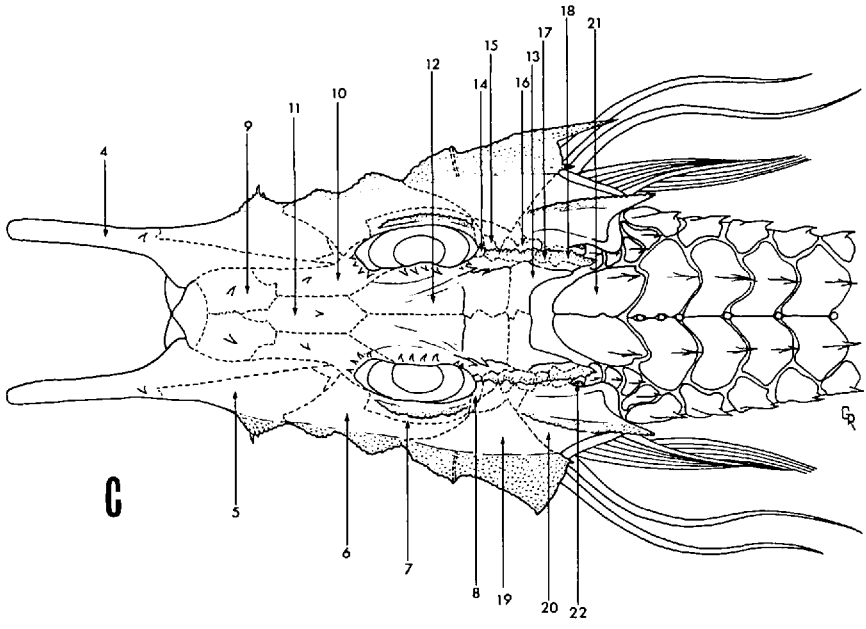

FIGURE 1. Dorsal and lateral views of head and anterior portion of body of a peristediid, showing bones, scutes, and diagnostic characters.

1. Premaxillary
2. Maxillary
3. Mandible
4. Rostral exsertion
5. 2nd infraorbital
6. 3rd infraorbital
7. 4th infraorbital
8. 5th infraorbital
9. Nasal
10. Lateral ethmoid
11. Mesethmoid
12. Frontal
13. Parietal
14. Sphenotic
15. Dermosphenotic
16. Pterotic
17. Extrascapular
18. Post-temporal
19. Preopercle
20. Opercle
21. Nuchal scute
22. Supracleithrum
23. 2nd infraorbital ridges
    a. 1st ridge
    b. 2nd ridge
    c. 3rd ridge
    d. perifacial rim
24. Mandibular ridges
    a. 3rd ridge
    b. 2nd ridge
    c. 1st ridge
25. Preopercular ridges
    a. dorsal ridge
    b. anterior ventral ridge
    c. posterior ventral ridge
26. Frontal I spine
27. Frontal II spine
28. Post-temporal spine
29. Post-temporal ridge
30. Parietal spine
31. Pectoral fin
    a. apex of joined rays with free rays
    b. 1st free ray
    c. 2nd free ray
    d. joined rays
32. Nuchal spine
33. Dorsal series, 1st scute
34. 1st dorsal spine
35. Superomedian series
    a. 1st scute
    b. 9th scute
36. Inferomedian series
    a. 1st scute
    b. Accessory scute
37. Ventral series, 1st scute
38. Nasal spine

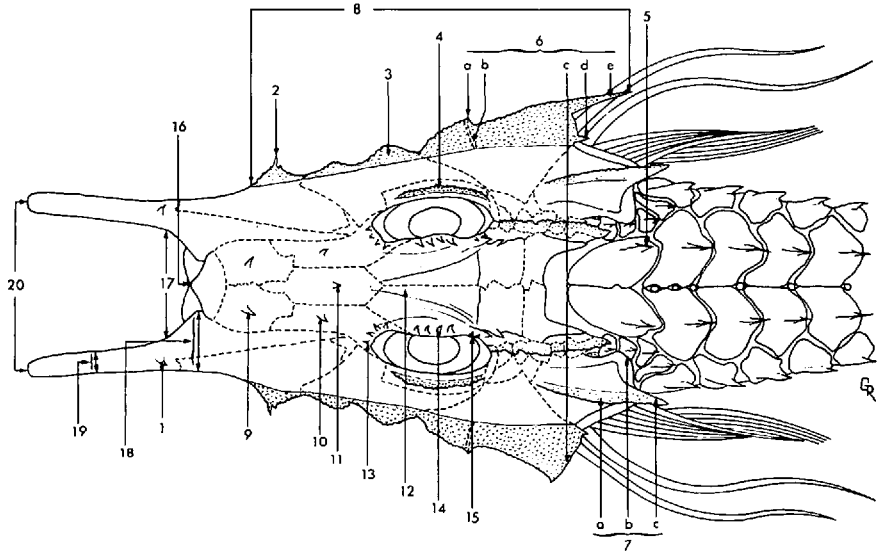

FIGURE 2. Dorsal view of head and anterior portion of body of a peristediid, showing additional diagnostic characters.

1. Rostral exsertion spine
2. 2nd infraorbital spine
3. 3rd infraorbital perifacial rim
4. 4th infraorbital ridge
5. Nuchal spine
6. Preopercular
   a. remnant spine
   b. sensory canal in perifacial rim
   c. perifacial rim termination as flat shelf
   d. accessory spine
   e. perifacial rim termination as spine
7. Opercular
   a. ridge
   b. posterior-most point of flexible margin
   c. spine
8. Perifacial rim
9. Nasal spine
10. Lateral ethmoid spine
11. Mesethmoid spine
12. Interorbital frontal depression
13. Preocular spines
14. Supraocular spines
15. Postocular spines
16. Premaxillary symphysis
17. Distance between rostral exsertions, near base
18. Greatest width of rostral exsertion
19. Width of rostral exsertion at middle
20. Distance between tips of rostral exsertions

methods used were not defined. The anatomical characters I used are shown in Figures 1 to 4.

Teague (1961) compared the species of *Peristedion* in the western Atlantic using well-defined procedures. I follow his methods and terminology, with some exceptions, as discussed in the following sections.

Useful Diagnostic Characters.—In examining specimens of over half of the nominal species of peristediids, the following characters were partic-

ularly useful in distinguishing species: lengths of joined and free rays of pectoral fin relative to head length; mandibular barbel length and the type and length of its filaments; number of lip and chin barbels and number of barbel groups; shape and length of gillrakers; shape of head and body; shape, size, and location of spines and bony ridges on head; shape, type of posterior termination, and number and size of spines of the perifacial rim; shape of rostral exsertion; number and shape of sensory pores on rostral exsertions; orbital length and width, and interorbital width; snout length and least width; shape and number of scutes in the four body series; position of anterior edge of first (anterior) ventral scute relative to anterior bony edge of pelvic girdle; location of the anus; shape and striations of first and second ventral scutes; and presence or absence of mid-dorsal groove between dorsal and caudal fins, and midventral groove between anal and caudal fin.

Meristics.—PECTORAL AND PELVIC RAY COUNTS: Counts, determined by dissection, were made on the left side of 50 specimens from R/V SILVER BAY sta. 4227, but not on type material.

CAUDAL RAY COUNTS: Counts, from alizarin-stained caudal fins of 21 specimens (SILVER BAY sta. 4227), are presented as dorsal secondary rays plus dorsal principal rays plus ventral principal rays plus ventral secondary rays. The principal rays articulate with the hypural plates; the secondary rays do not.

LIP AND CHIN BARBEL COUNTS: I indicate the lip and the chin barbels on the left and right side of the symphysis of the mandible as the total number of barbels divided by the number of groups in which they occur. In the example 12/5:13/6, the colon represents the separation of the left and right side, numbers to left and right of the sign refer to counts made respectively from left and right side of the fish in ventral view, 12 and 13 are numbers of chin barbels on left and right side, and 5 and 6 are numbers of groups in which the barbels occur. Variation is limited in the number of barbels in groups occupying similar positions on different fish. The new species described herein usually has its barbels arranged in the following grouping from anterior to posterior or laterally on both sides of the symphysis: chin barbels, 3+3+3+2+1:3+3+3+2+1 expressed as 12/5:12/5; and lip barbels, 2+2:2+2, expressed as 4/2:4/2 (Figs. 3, 6). The number and location of barbel groups and the number of barbels in the group are nearly bilaterally symmetrical. Because of this symmetry, chin barbels were grouped in half-counts to show the range within a species (Table 3). The number of filaments on the filamentous barbel is diagnostic in some species. In the eastern Pacific species *Peristedion barbiger* (Garman, 1899), it is difficult to distinguish between lip and chin barbels because some lip barbels are on the posterior edge of the lip. Barbels may be seen easily and counted accurately with transmitted light.

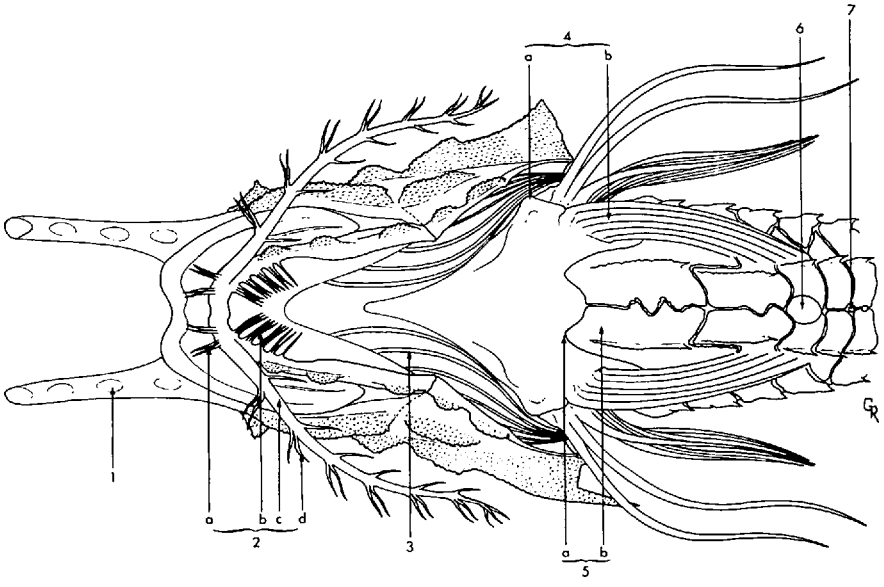

FIGURE 3. Ventral view of head and anterior portion of body of a peristediid, showing additional diagnostic characters.

1. Sensory pore
2. Barbels
   a. lip
   b. chin
   c. filamentous
   d. filaments on filamentous barbel
3. Branchiostegal
4. a. Pelvic girdle, anterior edge
   b. Pelvic fin
5. Ventral series
   a. 1st scute, anterior edge
   b. 1st scute
6. Anus
7. 1st anal ray

GILLRAKER COUNTS: Counts are from 60 type, and an additional 40, specimens. Gillrakers, including tubercles, are counted on the epibranchial, ceratobranchial, and hypobranchial portions of the right side of the first arch; the slender raker at the junction of the epibranchial and ceratobranchial is included in the count for the ceratobranchial.

BRANCHIOSTEGAL COUNTS: Counts of branchiostegal rays are from the left side of 25 dissected specimens (SILVER BAY sta. 4227), but not from type material.

SCUTE COUNTS: Counts were usually made on the left side. Dorsal series (first row), superomedian series (second row), inferomedian series (third row), and ventral series (fourth row), include all scutes in each series (Figs. 1-4). Superomedian series: the first scute-like, serrated structure on the dorsal surface of the supracleithrum is not included (Fig. 1A, No. 22); usually four, sometimes five, scutes on the anterior arch

of this series; bicuspid spine counts include all bicuspid spines on the posterior scutes in the superomedian series, including the last one or two scutes, whether they bear unicuspid or bicuspid spines. Inferomedian series: I arbitrarily included in the inferomedian series the posterior two or three scutes which coalesced with adjacent scutes in the ventral series; accessory scutes (infraserial bifurcating scutes of Teague) that may occur anteriorly between the inferomedian series and the ventral series are not included in the inferomedian series. Ventral series: Teague (1961:2) distinguished the abdominal keeled scutes from the other ventral scutes, but I found this separation valueless; the last discernible ventral scute in most Atlantic peristediids usually occurs at the posterior anal ray. Caudal series: all peristediids examined had two dorsal and two ventral scutes on the caudal fin base and one lateral scute; these are listed as 2-1-2.

Measurements.—The following lengths were measured from the premaxillary symphysis: total length, to distal end of caudal rays; standard length, to posterior edge of hypural plate; head length, to posterior lateral flexible edge of opercle; snout (rostral) length, to anterior bony rim of orbit (minimum length); rostral exsertion length, to anterior end of rostral exsertions. Lengths of joined pectoral rays and first and second free ray (first free ray adjacent to ventral portion of pectoral fin), from apex of ventral most joined ray and first free ray (Fig. 1B, No. 31a) to tip of respective ray; pelvic fin length, from base of median ray to tip of pelvic fin. Rostral exsertions: distance between rostral exsertions near base, measured between apex of angles as exsertions broaden posteriorly (Fig. 2, No. 17); distance between rostral exsertions at tips, between distal median margins of exsertions (Fig. 2, No. 20); greatest width, at base immediately posterior to premaxillary symphysis (Fig. 2, No. 18); width of rostral exsertion at middle, measured at one-half the distance between the distal end and the angle the exsertion makes posteriorly (Fig. 2, No. 19). Orbital length: greatest horizontal distance between bony rims of orbit. Orbital depth: greatest vertical distance between bony rims of orbit. Nape length: posterior dorsal median edge of skull to interorbital frontal depression. Spines and tubercles: distal end to anterior edge of base; if spine located at posterior end and continuation of inclined ridge, measurement is from tip of spine to anterior origin of ridge; distance between parietal spine, measurement between tips of spines. First and second ventral scute length, greatest dimension: first and second scute width, greatest width of ventral portion of scute.

The measurements used by Teague (1961) were divided into head length and standard length, whereas I present them as percentages of head length and standard length.

Cranial Anatomy.—Teague (1961:Text Fig. 1) labeled the spines and

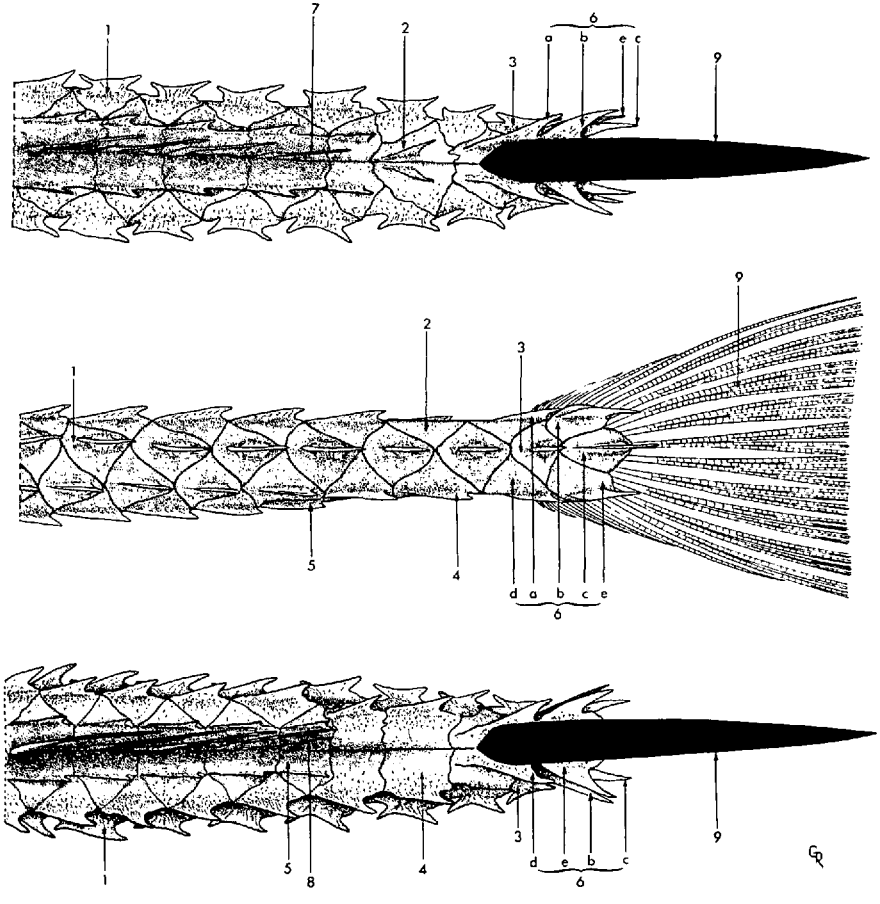

FIGURE 4. Dorsal (upper), lateral (middle), and ventral (lower) views of caudal region of a peristediid, showing diagnostic characters.

1. Bicuspid spine, 1st scute
2. Dorsal series, last scute
3. Superomedian series and bicuspid spine, last scute
4. Inferomedian series, last scute
5. Ventral series, last scute
6. Caudal series
   a. anterior dorsal scute
   b. posterior dorsal scute
   c. lateral scute
   d. anterior ventral scute
   e. posterior ventral scute
7. Last dorsal ray
8. Last anal ray
9. Caudal fin

ridges in a composite cranial diagram. One of these names, "third suborbital," refers to a ridge on the preopercle. I designate this ridge the dorsal preopercular ridge (Fig. 1B, No. 25a).

The shape and sutures of the cranial bones of the new species of *Peristedion* described herein are similar to those of *P. cataphractum* (Linnaeus, 1758) which were accurately described and illustrated by Allis (1909:136-156, Pl. 6) in his excellent description of the cranial anatomy of the mail-cheeked fishes, order Scleroparei. I follow Allis' terminology, except for several names now commonly used, as suggested by Stanley H. Weitzman (personal communication).

The spines, ridges, and bones of diagnostic use are shown in the composite diagrams of a peristediid (Figs. 1-4). Spines and ridges that require explanation are defined as follows: postocular spines, along posterior lateral edge of bony rim of orbit on frontals; frontal I spine, on frontal ridge above posterior bony rim of orbit; frontal II spine, spines, or ridge on frontal bone a short distance behind frontal I spine and in line with parietal ridge; post-temporal ridge or small ridges, on the small bones of sphenotic, dermosphenotic, pterotic, extrascapular, and post-temporals immediately above the opercle, preopercle, and fifth infraorbital; perifacial rim, lateral, elongated ridge, which may extend from base of the rostral exsertions to the posterior edge of the preopercle. The locations of some of the primary sense organs of the head of the holotype are depicted in Figures 5 and 6, but the organs are not described herein.

Abbreviations.—The names of the museums and other sources from which materials were obtained or in which type material was deposited are abbreviated as follows: AM, Australian Museum, Sydney; ANSP, Academy of Natural Sciences of Philadelphia; BLBG, U. S. Bureau of Commercial Fisheries Biological Laboratory, Brunswick, Georgia; BMNH, British Museum (Natural History), London; BOC, Bingham Oceanographic Collections, Yale University; CNHM, Chicago Natural History Museum; CU, Division of Biological Sciences, Cornell University; FSBC, Florida State Board of Conservation, St. Petersburg; GCRL, Gulf Coast Research Laboratory; IM, Indian Museum, Calcutta; IRSNB, Institute Royal des Sciences Naturelles de Belge, Brussels; LMNH, Rijksmuseum van Natuurlijke Historie; MCZ, Museum of Comparative Zoology, Harvard University; MN, Naturalista do Museu Nacional, Rio de Janeiro; MNHN, Muséum National d'Histoire Naturelle, Paris; SU, Division of Systematic Biology, Stanford University; TABL, U. S. Bureau of Commercial Fisheries, Tropical Atlantic Biological Laboratory, Miami, Florida; TU, Tulane University; UMML, University of Miami Marine Laboratory; UMMZ, University of Michigan Museum of Zoology; USNM, United States National Museum; UW, University of Washington College of Fisheries.

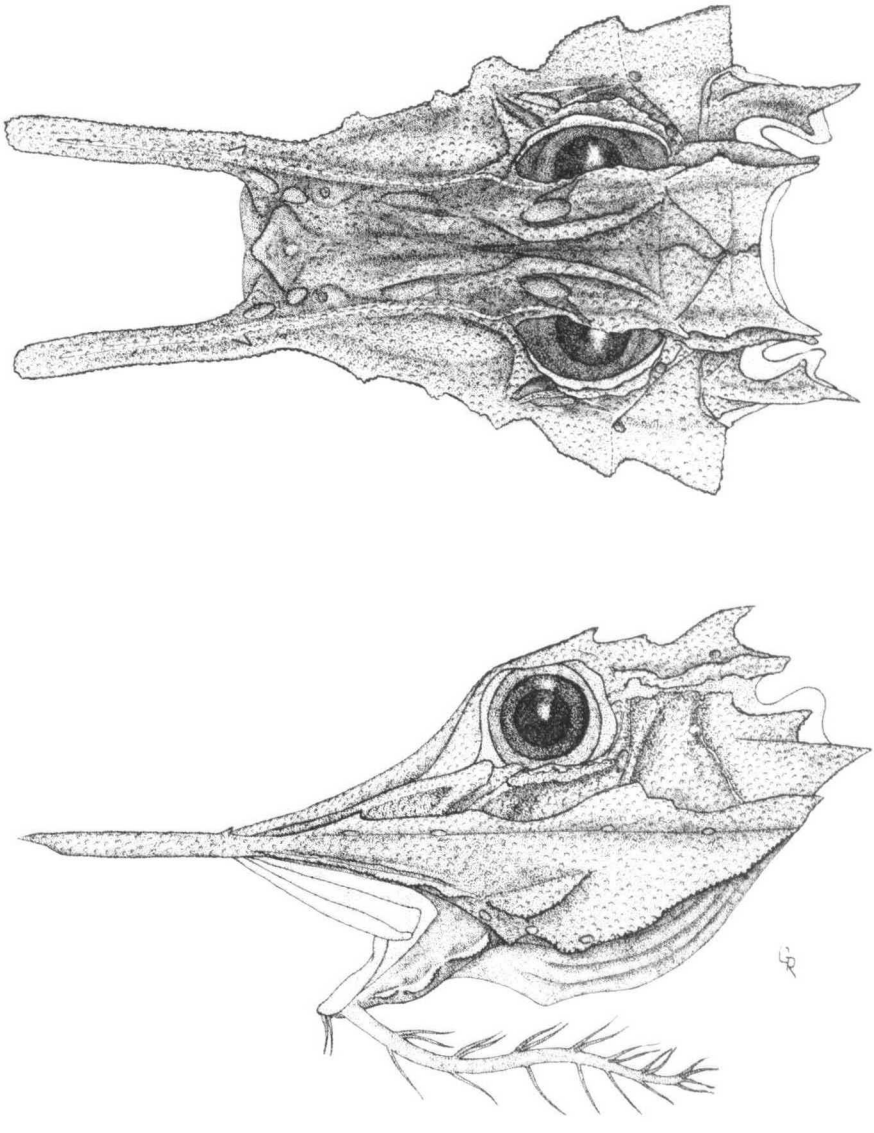

FIGURE 5. *Peristedion greyae*, holotype, USNM 198124. Dorsal and lateral view of head.

Peristedion greyae, new species

PRICKLY ARMORED SEAROBIN

Figs. 5, 6; Tables 1-3

Peristedium longispatha (*non* Goode & Bean, 1886), Goode & Bean, 1886: 167 (in part; ALBATROSS sta. 2376 & 2397).

Peristedion longispatha (*non* Goode & Bean, 1886), Goode & Bean, 1896: 472 (in part; ALBATROSS sta. 2376 & 2397, and coloration notes).—Myers, 1934: 12 (comparison of *P. bartschi* Myers, 1934 with specimens synonymous with *P. greyae*).

Peristedion longispathum (*non* Goode & Bean, 1886), Jordan & Evermann, 1898: 2178-2179 (in part; ALBATROSS sta. 2376 & 2397).—Evermann & Marsh, 1900: 284 (in part; ALBATROSS sta. 2376 & 2397).—Longley & Hildebrand, 1941: 169 (meristics and morphometrics of specimens synonymous with *P. greyae*).—Teague, 1961: 13-14 (in part; USNM 117051 and USNM 210952, meristics and morphometrics partially those of specimens synonymous with *P. greyae*).

Diagnosis.—Two or three separate and distinct serrated ridges on mandible; if present, third ridge generally very low, and barely perceptible. Usually a strong concavity on outer edge of perifacial rim of preopercle. Rostral exsertion spine generally present. Chin barbel counts predominantly12-13/5:12-13/5 with the barbels usually arranged in the following groupings, 3+3+3+2+1 or 3+3+3+2+2.

Description of the Holotype.—Standard length 132 mm. Total length 152 mm. Dorsal fin-ray count VIII-19. Anal fin rays 21. Pelvic fin rays I-5. Pectoral fin rays 12+2. Lip barbels 4/2:4/2; chin barbels 12/5:12/5. Gillrakers on first arch: epibranchial 6; ceratobranchial 18; hypobranchial 4; total 28. Rostral exsertion spine 1. Serrated ridges on mandible 3. Vertebrae 35. Branchiostegals 7. Scutes: dorsal series 27; superomedian series 33, bicuspid spines 11; accessory scutes 0; inferomedian series 25; ventral series 24; caudal series 2+1+2.

Measurement in millimeters with percentage of standard length in parentheses. Body depth at first dorsal spine 25.7 (19.5); at anal-fin origin 17.0 (12.9). Body width at pectoral fin origin 21.5 (16.3). Head length 47.8 (36.2). Greatest head width 40.6 (30.8). Length of joined pectoral finray 23.0 (17.4). Length of first free pectoral finray 27.9 (21.1). Length of second free pectoral finray 23.0 (17.4). Pelvic finray length 28.5 (21.6).

Measurement in millimeters with percentage of head length in parentheses. Filamentous barbel length 21.1 (44.1). Lip barbel length 4.3 (9.0). Chin barbel length 3.6 (7.5). Snout length 21.3 (44.6), width 16.2 (33.9). Orbital length 12.0 (25.1), depth 8.3 (17.4). Interorbital width 9.7 (20.3). Rostral exsertion length 17.4 (36.4); distance between rostral exsertions near base 9.9 (20.7); greatest width of rostral exsertion at base 5.6 (11.7); width at middle of rostral exsertion 3.1 (6.5); distance between rostral exsertions at tips 15.7 (32.8). Distance between

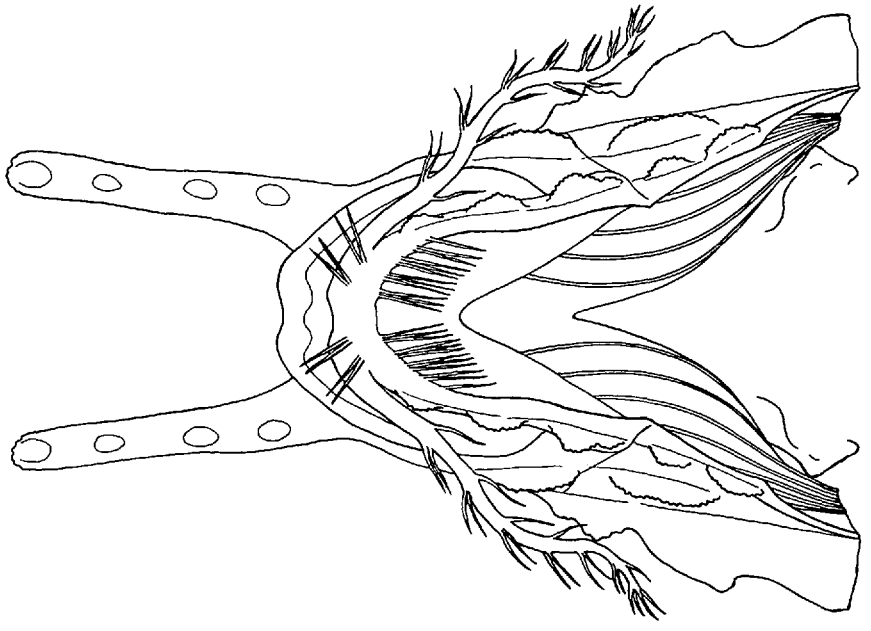

FIGURE 6. *Peristedion greyae,* holotype. Ventral view of head, showing barbel arrangement.

parietal spines 10.8 (22.6). Nape length 8.2 (17.2). First (posterior) serrated ridge on mandible, length 2.8 (5.9), width 1.1 (2.3). Second (middle) serrated ridge on mandible, length 2.8 (5.9); width 0.6 (1.3). Third (anterior) serrated ridge on mandible present, minute, not measured. Fourth suborbital ridge, length 7.3 (15.3), width 0.7 (1.5). First ventral scute length 15.8 (33.1), width 9.9 (20.7). Second ventral scute length 9.7 (20.3), width 11.3 (23.6).

Specimen originally preserved in 10 per cent formalin, neutralized, and changed to 40 per cent isopropanol. Spiny dorsal fin tan with a dusky stripe near edge. Soft dorsal fin tan with a narrow dark edge. Anal fin tan. Pectoral fin pinkish tan, distal one-third black (dark red in life). Pelvic and free rays of pectoral fin yellowish tan. Caudal fin yellowish tan with a dark dorsal edge. Chin and lip barbels pinkish tan. Body yellowish tan. Dorsal portion of head pinkish brown, ventral portion pink.

Description of the Species.—Ranges of measurements from type material given in Tables 1 and 2. Counts from 60 type specimens unless otherwise denoted under section on methods.

FINRAYS: Dorsal spines 8; dorsal softrays 18 to 20 (modally 20); an-

TABLE 1

SELECTED MEASUREMENTS OF *Peristedion greyae* TYPE SPECIMENS EXPRESSED AS RANGES IN PERCENTAGE OF STANDARD LENGTH

Character	Size Range	
	60 to 97 mm (SL) (30 Paratypes)	102 to 183 mm (SL) (Holotype and 29 Paratypes)
Joined pectoral finray length	16.5-21.4	16.2-21.3
First free pectoral finray length	17.8-22.8	18.7-23.6
Second free pectoral finray length	12.6-18.7	14.0-18.2
Pelvic finray length	20.2-25.1	19.5-24.6
Head length	32.7-42.1	33.7-39.1
Greatest head width	24.9-33.9	27.2-33.9
Body depth at first dorsal spine	16.0-21.1	16.2-20.8
Body depth at anal fin origin	10.5-12.9	9.7-13.1
Body width at pectoral fin origin	12.2-16.9	14.4-20.0

terior four dorsal spines usually on first and second dorsal scutes, remaining spines one per scute; first two dorsal softrays at the scute following last dorsal spine; remaining softrays usually one ray per scute; last dorsal spine and last softray sometimes very small, scarcely visible. Anal softrays 18 to 21 (modally 20); first and last ray smaller than adjoining rays, either unsegmented or segmented only on distal half (lack of segmentation in the first anal finray has caused it to be classified as a spine; see Jordan & Evermann [1898: 2179]). Joined pectoral finrays 11 to 13 (modally 12), plus two free rays; first (dorsalmost) free ray longer than joined rays, and extending past anal origin. Pelvic finrays I-5; spine translucent, leading edge smooth; median edge of fin adnate to lateral edge of first ventral scute. Caudal finray counts 8-9+7+6+8-9 based upon 21 stained specimens.

BARBELS: Lip and chin barbels slender, less than 0.2 mm wide. Lip barbel half-counts from type specimens: 95 per cent with 4/2 lip barbels, usually grouped 2+2 barbels; 2.5 per cent with 5/2, grouped 2+3 barbels (some specimens mutilated, counts not determinable). Chin barbel half-counts from type specimens: 84 per cent with 12-13/5, usually grouped 3+3+3+2+1 or 3+3+3+2+2 (Table 3). Filamentous barbel: moderately long, usually not reaching termination of perifacial rim; terminating posteriorly in three or four filaments; filaments along barbels, arranged in clusters of two each in a row on one side and on other side a single filament opposite each pair (Fig. 5).

GILLRAKERS ON FIRST ARCH: Epibranchial gillrakers, 5 to 7, modally 6; 5 gillrakers in 70 per cent of 30 specimens from 60 to 99 mm SL, and 6 gillrakers in 73 per cent of 70 specimens of 100 to 180 mm SL; rakers graduated in length, long and slender at angle, small tubercle anteriorly.

TABLE 2

SELECTED MEASUREMENTS OF *Peristedion greyae* TYPE SPECIMENS EXPRESSED AS RANGES IN PERCENTAGE OF HEAD LENGTH

Character	Size Range	
	60 to 97 mm (SL) (30 Paratypes)	102 to 183 mm (SL) (Holotype and 29 Paratypes)
Filamentous barbel length	27.2-43.9	32.1-50.1
Lip barbel length	5.1-12.2	6.5-12.4
Chin barbel length	3.2-9.8	4.1-8.6
Snout length	42.2-48.6	44.4-48.9
Least width of snout	31.9-41.2	33.3-37.4
Orbital length	21.3-30.2	22.1-27.0
Orbital depth	17.0-22.8	15.1-20.7
Interorbital width	19.9-27.0	16.5-21.8
Rostral exsertion length	24.0-35.9	21.1-37.8
Width between rostral exsertions, near base	16.8-23.8	17.8-23.2
Greatest width of rostral exsertion	12.0-15.4	11.7-13.7
Width of rostral exsertion at middle	6.0-7.8	5.1-7.4
Distance between tips of rostral exsertions	23.1-39.3	26.1-38.2
Distance between parietal spines	19.6-31.0	18.8-25.4
Nape length	16.5-22.7	14.2-19.5
First (posterior) ridge on mandible length	4.5-7.7	5.1-8.7
First (posterior) ridge on mandible width	1.2-10.2	1.3-4.2
Second ridge on mandible length	2.7-8.3	3.4-8.6
Second ridge on mandible width	0.3-2.2	0.6-3.3
Fourth suborbital ridge length	13.0-19.9	13.5-19.6
Fourth suborbital ridge width	1.2-3.5	1.1-2.5
First ventral scute length	24.6-34.4	25.2-36.1
First ventral scute width	15.5-23.9	17.4-27.0
Second ventral scute length	13.7-20.1	14.3-21.2
Second ventral scute width	14.3-21.2	17.7-29.1

Ceratobranchial gillrakers 16 to 21, modally 19, decreasing in size anteriorly, posterior 6 rakers near angle equal to or larger than gillraker at angle. Hypobranchial gillrakers, 3 to 5, modally 4; decreasing in size anteriorly to a small raker or tubercle. Gillrakers of lower limb 20 to 26, modally 23. Total gillrakers of first arch 24 to 32, modally 27.

SPINES AND RIDGES OF HEAD: Nasal, mesethmoid, lateral ethmoid, preocular, supra-ocular, and postocular spines absent. Rostral exsertion spine small, not exceeding 1.3 mm; absent in one paratype. Frontal I spine variable, a tubercle, a low retrorse spine, or an elevated spine. Frontal II spine variable, absent, a low ridge, or a small spine 0.2-2.3 mm at posterior termination of ridge. Parietal spine variable, ranging from a low retrorse spine to an elevated spine, 0.9-6.5 mm; relatively longer in relation to

TABLE 3

CHIN BARBEL HALF-COUNTS[1] AND NUMBER OF GROUPS FROM THE TYPE SPECIMENS OF *Peristedion greyae*

Number of barbel groups	Number of barbels							
	9	10	11	12	13	14	15	16
4	2	2	1	2	–	–	–	–
5	–	–	4	84	14	5	1	–
6	–	–	–	–	–	–	–	1

[1] Half-counts from mutilated specimens omitted.

head length in postlarvae and juveniles than in adults. Pterotic ridge low. Post-temporal ridge low, ascending posteriorly, terminating bluntly. Opercular ridge terminating in a flat spine extending beyond posterior edge of opercle; edge of ridge weakly serrated or spinous; in postlarvae and small juveniles, termination of ridge at posterior edge of opercle blunt or slightly rounded. Perifacial rim: on second infraorbital variable, absent, a spine or spines, or a ridge bearing one to six spines or large serrations; on third infraorbital, a narrow shelf anteriorly, moderately wide shelf posteriorly, often coalesced but usually distinguishable; on preopercle, delineated anteriorly by suture of preopercle with third infraorbital, increasing in width posteriorly to sensory system in rim, then decreasing in width as a strong concavity (absent in one paratype), then increasing in width, and finally terminating posteriorly as a broad shelf with posterior margin nearly perpendicular to head. Second infraorbital ridge narrow, extending posteroventrally from perifacial rim, dorsal and nearly parallel to the maxillary with mouth closed, terminating above posterior serrated ridge of mandible. Fourth infraorbital ridge narrow, width 0.4-1.2 mm, located below eye; with growth, ridge lengthens but does not widen (ridge 3.3-6.4 mm long in specimens less than 100 mm SL, 4.4-12.7 mm long in specimens greater than 100 mm SL). Preopercular dorsal ridge short, wide, not visible in dorsal view of head, located posterior to termination of ridge on second infraorbital. Preopercular anterior ventral ridge, size equal to posterior ridge of mandible, near edge of preopercle immediately posterior to first ridge of mandible; preopercular posterior ventral ridge, near or on ventral edge of preopercle, with large openings of preoperculo-mandibular canal on either side of ridge. Rostral exsertions (= first infraorbitals or lachrymals), flat, narrow, moderately long, diverging slightly with mouth closed (may be parallel or convergent with mouth open), tips rounded, lacking strong serrations.

SPINES AND SCUTES OF BODY: Nuchal spine of nuchal scute ("nuchal scute" called "dorsal plate" by Teague, 1961), absent or as long as 3.6

mm; smaller than spine on first scute of dorsal series. Dorsal series, 25-27 scutes (modally 26); size of spines on scutes decreasing posteriorly; posterior two spines usually small and laterally oblique to others in series. Superomedian series, 32 to 35 scutes (modally 33); four scutes in arch at anterior end of series always bearing small ridges, whereas second to fourth scutes may bear tubercles or spines on ridges; size of spines increasing posteriorly to sixth to ninth scutes; posterior 7 to 11 scutes (modally 9), in series bear bicuspid spines; posterior two scutes on caudal base and caudal peduncle may lack spines, or may have unicuspid or bicuspid spines. Inferomedian series, 23 to 26 scutes (modally 24); normally first scute and spine at anterior end of series twice the length of the second scute and spine, with outer edge of first spine straight; posterior two or three scutes in series fused with ventral series; spines on these scutes usually aligned with the inferomedian and ventral spines. Accessory series, 0 to 3 scutes (modally 0); 1 to 3 scutes in 7 of 60 type specimens examined, beneath anterior scutes of inferomedian series. Ventral series: 22 to 24 scutes (modally 23); first ventral scute (first pair of abdominal keeled plates as defined by Teague, 1961) with spines obsolete (32 specimens), or with tubercles (19 specimens), or with spines (9 specimens); anterior edge of first ventral scute posterior to bony ridge of pelvic girdle, visible beneath skin (Fig. 3); second ventral scute (second pair of abdominal keeled plates) with spines lacking or obsolete (10 specimens), or with tubercles (39 specimens), or with spines (11 specimens); anus located between second and third scutes (52 specimens), or on third scute (3 specimens), or between third and fourth scutes (5 specimens); spines on third or fourth scute nearly equal in size with spines on succeeding scutes decreasing in size posteriorly with last scute in series bearing small spine; last distinguishable ventral scute usually at posterior anal finray or immediately posterior to last anal finray. Caudal series: number constant, two dorsal, one lateral, and two ventral scutes; anterior dorsal and ventral caudal spines small, approximately one-half the length of the posterior spines; spine on lateral caudal scute long, slender, extending past the end of posterior dorsal caudal-fin spine; edges of caudal spines usually smooth, but sometimes with small serrations. Scutes lacking in small area on side immediately posterior to base of pectoral fin.

INTERNAL ANATOMY: Intestine extending from stomach along right dorsal side to posterior edge of abdominal cavity, looping ventrally, extending backwards to anterior end of abdominal cavity on right side, angling inwardly to ventral median surface immediately posterior to stomach, and then extending posteriorly along median ventral surface of abdominal cavity to anus. Peritoneum translucent yellow, the air bladder silvery in preservative. Vertebrae 33 to 35 (modally 34). Branchiostegal bones seven.

COLORATION: Variable, but generally as follows in freshly caught specimens. Spinous dorsal fin pink, with a very dark red band near or on edge. Soft dorsal fin pink, with a narrow dark red band on edge. Pectoral fin: four coloration bands across fin, a broad band of light red at base, a broad band of pink, a broad band of very dark red, and a very narrow band of pink at the margin. Caudal pink, distal portion and dorsal edge dark red. (Dark red markings on fins of fresh material appearing black in preservative.) Anal fin pinkish white. Pelvic fins and free rays of pectoral pale red. Mandibular barbels pale red. Chin and lip barbels pink or white. Body pink above superomedian series of scutes; a broad band of bronze, golden yellow, or white between superomedian and inferomedian series. Abdomen white, ventral portion of body posterior to anus pink, dorsal portion of head pink, ventral portion of head orange-pink.

Range.—The known range is from Cape Lookout, North Carolina in the western North Atlantic, southward through the Gulf of Mexico and Caribbean Sea to Tobago Island (Lesser Antilles). This species occurs at depths of 100 to 455 fathoms (183-830 m) and is common off eastern Florida in 180 to 225 fathoms (330-411 m). The largest specimen examined, 190 mm SL, was taken in the Gulf of Mexico, south of Mobile Bay, in 250 fathoms (457 m).

Common Name.—Prickly armored searobin, in reference to the sharp spines on the scutes.

Etymology.—This species is named for the late Marion Grey, Chicago Natural History Museum, in recognition of her many contributions to the knowledge of the bathypelagic and benthic fish fauna.

Material Examined.—The type series does not include all specimens examined. Some were examined only for selected and diagnostic characters. Specimens examined are listed geographically from north to south in the following manner: for type specimens examined, museum number or collection, number of specimens, range of standard length in millimeters (in parentheses), vessel and station number or location, latitude and longitude, depth in fathoms, and date of capture; for other specimens examined, the latitude and longitude, depth in fathoms, and date of capture were omitted.

HOLOTYPE: USNM 198124 (132 mm), SILVER BAY sta. 3665, 29°40′N, 80°11′W, 80-foot flat trawl on bottom, 165 fms, Jan. 17, 1962.

PARATYPES: SU 62138, 3(78-109), TU 33302, 2(77, 106), UMMZ 181426, 3(74-110), UMML 14796, 3(89-109), CU 47245, 3(81-105), UW 17776, 3(90-103), SILVER BAY 4159, 34°15′N, 75°54′W, 190-200 fms, June 9, 1962. —TABL, 2(96-97), SILVER BAY 4218, 30°05′N, 80°10′W, 170-175 fms, Aug. 23, 1962.—USNM 198125, 5(119-141), MNHN 1964-286, 1(70), LMNH 24871, 1(84), SILVER BAY 3665, 29°40′N, 80°11′W, 165 fms, Jan. 17, 1962.—ANSP

101601, 1(80), MCZ 43031, 1(94), BMNH 1964.8.31.1, 1(93), SILVER BAY 4223, 29°30'N, 80°08'W, 180-185 fms, Aug. 24, 1962.—TABL, 4(60-68), IRSNB I. G. 23153-No. 462, 1(77), AM IB-7246, 1(85), MN Ict. 9747, 1 (88), IM, 1(90), BOC 4493, 1(89), SILVER BAY 4227, 29°20'N, 80°05'W, 183-195 fms, Aug. 24, 1962.—USNM 198126, 4(63-84), CNHM 66701, 1 (126), COMBAT 441, 25°16'N, 80°00'W, 185 fms, July 22, 1957.—MNHN 1964-287, 1(131), LMNH 24872, 1(136), IRSNB I. G. 23.153-No. 461, 1 (134), AM IB-7247, 1(148), MN Ict. 9746, 1(138), IM, 1(143), BOC 4494, 1(150), OREGON 3582, 9°15'N, 81°32'W, 250 fms, May 25, 1962. CNHM 66702, 1(95), ANSP 101602, 1(126), MCZ 43032, 1(135), BMNH 1964.-8.31.2, 1(140), OREGON 3598, 9°03'N, 81°22'W, 200-220 fms, May 31, 1962. —TABL, 5(126-183), OREGON 3599, 9°00'N, 81°23'W, 250 fms, May 31, 1962.

OTHER SPECIMENS: All specimens not listed from other collections are deposited in the TABL (Tropical Atlantic Biological Laboratory, Miami, Florida) fish collections. Abbreviations used for exploratory fishing vessels are SB-SILVER BAY, Ore-OREGON, Pel-PELICAN, and Comb-COMBAT. Comb 172, 1(79); SB 4160, 6(102-115); SB 4161, 1(56); Comb 179, 1(176); Comb 291, 1(106); Comb 288, 1(45); Comb 295, 3(49-106); Comb 296, 1(148); Comb 300, 4(38-97); Comb 307, 1(48); Comb 310, 1(48); SB 228, 1(136); SB 4214, 2(100-134); Pel 42, TU 14762, 1(131); SB 3078, 3(130-142); Comb 499, USNM 159842, 1(132); Pel 58, USNM 156607, 1(135); Pel 57, UMML 3414, 1(148); SB 3746, 3(95-136); Comb 430, 17(120-148); SB 3739, 2(129-140); SB 3740, 8(120-140); SB 5455, 7(122-139); SB 4215, 8(120-142); SB 3080, 22(127-160); SB 3741, 4(90-130); SB 4212, 2(131-144); Comb 322, 2(136-140); SB 3752, 6(120-144); Comb 431, 3(124-132); Comb 433, 9(122-141); SB 3747, 4(128-145); SB 4213, 1(135); Pel 56, 1 (117); SB 3082, 16(104-150); SB 3675, 5(121-132); SB 3683, 40(113-147); SB 3081, 10(130-142); SB 4216, 15(125-149); SB 3085, 10(117-142); SB 3084, 7(118-138); SB 3661, 51(113-142); Pel 46, USNM 158166, 1(131); SB 4363, 1(146); Comb 323, 1(128); Comb 434, 3(119-139); Comb 313, 1 (130); SB 4219, 62(118-168); SB 3742, 5(126-140); Comb 499, USNM 159842, 1(133); Comb 473, 1(131); SB 3664, 76(110-147); Comb 435, 2 (125-126); SB 3083, 3(129-132); SB 3748, 2(129-139); SB 5456, 20(119-137); SB 4220, 37(137-162); SB 211, 1(94); Comb 324, 3(129-133); Comb 194, USNM 159841, 1(124); SB 4221, 23(137-168); Comb 314, 1(134); SB 218, 1(135); SB 4222, 23(137-168); Pel 31, USNM 158165, 1(149); SB 1607, 1(132); Comb 325, 1(124); SB 3750, 3(109-142); Pel 77, TU 16318, 2(124-140); Comb 475, 3(121-133); Comb 484, 1(130); Comb 483, USNM 159836, 1(119); ANTILLAS, UMML 4496, 2(75-142); SB 220, 3(80-102); Comb 486, USNM 159848, 2(127-130); SB 225, 1(65); SB 2064, 2(133-136); SB 3075, 51(120-146); SB 5459, 13(127-144); SB 226, 2(95-114); SB 4224, 128(99-167 T.L.); SB 1608, 1(136); SB 2067, 2(136-142); SB 5460, 5(123-140); Comb 479, 2(123-126); SB 227, 3(96-139); Ore 599, CNHM 45641, 1(58); SB 221, 1(117); Ore 319, TU 2813, 2(157-161); SB 4227, 9(62-101); SB 4227-4228, 680(70-176); Comb 476, 4(135-143); SB 4225, 15(125-168); SB 3076, 63(117-155); Ore 1246, USNM 157857, 2(104-116); Comb 329, USNM 159849, 2(123-128); Ore 1964, CNHM, 1(133); Ore 1519, TU 11673, 2(125-133); SB 2070, 5(130-142); Ore 3652, 29(110-190); Ore 1965, CNHM, 2(164-166); Ore 1581, USNM 158160, 1(121); Ore 3653, 5(132-174); Ore 3677, 2(59-89); Ore 1963, CNHM, 3(106-185); Ore 3218, 2(155-162); Ore 279, CNHM 465582, 10(157-172), USNM 158162, 26(140-172); SB 4230,

105 discarded; SB 5476, 11(127-145); GULF MASTER, UMML 4016, 6(84-133); Ore 1568, UMML 591, 2(125-150); Ore 3390, 11(132-170); SB 4231, 8 discarded; SB 4232, 600 (90-180); Ore 4005, 10(138-160); Comb 317, 1(121); Ore 4786, 1(90); Ore 1388, USNM 157859, 2(67-80); Ore 4822, 5(123-162); ALBATROSS 2376, USNM 44673, 1(127); Ore 126, 1(143); Ore 127, USNM 158521, 2(140-163); Ore 4014, USNM, 1(96); Ore 1276, USNM 157860, 3(114-118); Comb 331, 2(131-140); Pel 29, UMML 1856, 1(123); SB 5478, 8(130-142); Comb 332, 6(83-150); SB 5479, 2(121-126); ALBATROSS 2397, USNM 44232, 8(144-169), SU 9511, 1(156); SB 4238, 48(133-160); SB 3073, 10(124-145); ANTILLAS, UMML 4501, 1(153); SB 4240, 300; Pel 66, TU 14818, 1(136); Comb 319, 1(134); SB 3072, 3(121-133); Ore 1276, USNM 157860, 3(113-145); SB 4241, 50(94-166); Pel 27, UMML 18, 1(117); SB 3095, 130(117-146); Pel 13, UMML 30, 8(117-136), USNM 158163, 2(128-137); SB 3711, 57(104-153); SB 4242, 22(136-163); Pel 20, UMML 19, 1(129); Pel 25, 5(50-132); SB 4245, 52(128-161); Ore 4615, 1(77); Ore 4709, 8(87-156); Ore 489, USNM, 2(147-151); Ore 4730, 1(119); Pel 10, UMML 102, 2(115-119); Ore 4611, 2(81-82); SB 3472, 2(70-95 T.L.); GERDA 175, UMML 14292, 1(142); Ore 162, USNM 185074, 1(107); Ore 163, USNM 158239, 4(56-143); Comb 460, 2(128-136); Ore 1091, TU 12911, 3(90-95); Ore 1556, TU 12671, 39(64-145); GERDA 29, UMML 15, 15(51-91); USFWS, UMML 9087, 1(128); GERDA 266, UMML 14726, 1(126); GERDA 76, UMML 11951, 1(106); Comb 442, 4(51-78); GERDA 61, UMML 14703, 1(135); Comb 453, 4(67-103); GERDA 229, UMML 13880, 1(115); Comb 438, 2(73-108); GERDA 228, UMML 14274, 3(100-122); Comb 439, 2(97-103); SB 3518, 5(62-81); Ore 1321, CNHM 64258, 4(69-99); SB 3517, 1(106); Comb 186, UMML 1852, 1(135); Ore 1010, USNM 188230, 2(122-129); Ore 1009, 5(124-141), USNM 164121, 3(134-138); Ore 1328, TU 14794, 1(76); Ore 2671, CNHM, 6(107-134); Ore 4362, UMML 13287, 1(139); Ore 1538, TU 12706, 20(53-154); Ore 1537, TU 12733, 9(105-150); Ore 1011, USNM 157821, 2(76-125), CNHM 61326, 2(52-99); Ore 4528, 4(125-136); Ore 4373, UMML, 1(133); Ore 2670, CNHM, 15(109-145); Ore 1007, USNM 164122, 11(72-156), TU 10919, 4(89-145); Ore 1548, TU 12701, 37(46-152); Ore 1016, CNHM 61329, 1(139); Ore 1005, USNM 164125, 3(50-74), TU 10906, 5(70-162); Ore 1330, USNM 157883, 4(56-119); Ore 1012, TU 11012, 3(122-150); Comb 281, UMML 2881, 1(121); Comb 436, 2(110-121); FISH HAWK 7512, USNM 142973, 1(92); SB 2458, 3(158-165); Tortugas, USNM 117050, 8(81-145); Tortugas, USNM 117051, 2(135-138); Tortugas, USNM 117052, 1(55); Tortugas, USNM 92039, 22 (84-148); Tortugas, USNM 92065, 12(100-112); Ore 726, CNHM 45638, 16(115-149); Ore 590, 1(119); Ore 1054, 1(56); Ore 3629, 1(169); Ore 3628, 2(137-150); Ore 1885, CNHM, 3(62-67); Ore 1883, CNHM, 1(56); Ore 3627, 4(118-142); Ore 3616, 3(139-141); Ore 3565, 6(124-143); Ore 3571, 2(134-140); Ore 3570, 2(135-137); Ore 3614, 1(141); Ore 1923, USNM 159844, 1(156); Ore 3575, 22(138-185); Ore 3609, 2(141-143); Ore 3576, 1(149); Ore 3610, 2(137-145); Ore 4922, 3(159-162); Ore 4407, 8 (70-183); Ore 4406, 6(133-176); Ore 4408, 3(122-135); Ore 4412, 6(158-180); Ore 4419, 2(133-156); Ore 5037, 1(116); Ore 2780, FSBC (VGS 60-76), 2(125-133); Ore 2777, 1(183); Ore 2353, 1(144); Ore 2779, 2(163); Ore 2775, 3(119-157); Ore 5029, 3(161-173); Ore 5028, 1(165); Ore 4440, 2(95-149); Ore 4842, 1(139); Ore 4841, 21(127-177); Ore 4839, 1(155); Ore 4859, 1(168); Ore 4441, 1(152); Ore 4448, 1(175); Ore 4882, 7(142-186); Ore 3584, 3(134-146); Ore 3600, 3(130-148); Ore 3592, 1(145).

Confusion of P. greyae *with* P. longispatha.—Using existing keys (Longley & Hildebrand, 1941:167-168; Teague, 1961:4-6), specimens of *P. greyae* would be identified as *P. longispatha.* Review of the literature and examination of the type series of *P. longispatha* and the holotype of *P. bartschi* explain this confusion.

In the original description of *P. longispatha*, Goode & Bean (1886: 166-167) designated the type as being from BLAKE LVIII, in 314 fathoms (575 m) off Santa Cruz, and the remaining type series from BLAKE LXII and LXIII, and ALBATROSS sta. 2358, 2376, 2397, and 2407. The single specimen from BLAKE LVIII is the holotype, and the remaining specimens listed are paratypes. Subsequently, Goode & Bean (1896:472) omitted ALBATROSS sta. 2407 from the list of the type series, as this station had been erroneously included, and they also changed the depth and locality of the holotype to 242 fathoms (443 m) off Havana. They apparently were unaware that the Roman numerals on specimen labels were sorting numbers, and not station numbers (Eschmeyer, 1965:236-238). When Goode & Bean discovered that the collection data with the Roman numerals were different from the data with the Arabic numerals, they incorrectly changed the locality data to agree with that given for the Arabic numerals. The correct data for the holotype of *P. longispatha* (MCZ 28009) are BLAKE sta. 129, sorting number LVIII, 17°42′35″N, 64°54′20″W, in 314 fathoms (575 m), bottom water temperature 48.5°F (9.2°C), off Frederickstadt (= Frederiksted), Santa Cruz (= St. Croix), on January 4, 1878.

The holotype and four other specimens of *P. longispatha* from the BLAKE stations in the Museum of Comparative Zoology were cataloged as syntypes. Two of these four specimens are not paratypes, as they are from stations not included in the type series: MCZ 28088, BLAKE sta. 275, 12°58′33″N, 59°36′45″W, in 218 fathoms (399 m) off Barbados, and MCZ 28090, BLAKE sta. 172, 15°58′10″N, 61°42′55″W, in 62 fathoms (113 m) off Guadeloupe. The remaining two specimens, MCZ 28022, Sorting No. LXII and MCZ 28089, Sorting No. LXIII, both from BLAKE sta. 274, 13°00′50″N, 59°36′20″W, in 209 fathoms (382 m) off Barbados, are paratypes. None of these four is *P. longispatha*; MCZ 28088, 28089, and 28090 are *P. antillarum* Teague 1961; and MCZ 28022 is *P. imberbe* (Poey, 1861). I have redescribed and discussed *P. imberbe* in a manuscript now in preparation on those peristediids having a narrow perifacial rim.

Teague (1961:12) did not discuss the type specimens listed by Goode & Bean from the ALBATROSS stations in his description of *P. longispatha,* nor did I find a record of these types in the Museum of Comparative Zoology. However, in my examination of peristediids in the U. S. National Museum, I found the following type specimens of *P. longispatha* entered

in the general collections: USNM 47648 (1), BLAKE sta. 274, Sorting No. LXIII, in 209 fathoms off Barbados, which I reidentified as *P. antillarum*; USNM 44673 (1), from ALBATROSS sta. 2376 and USNM 44232 (8), from ALBATROSS sta. 2397, reidentified as *P. greyae*; and USNM 46031 (1), ALBATROSS sta. 2358, originally identified and cataloged as *P. longispatha*, changed to *P. caribbaeum* Myers (MS), later identified as *P. bartschi* Myers, which I identified as *P. longispatha*. The only specimen of *P. longispatha* designated as a paratype is USNM 46031 from ALBATROSS sta. 2358.

Dr. Walter Courtenay, Jr. (personal communication) stated that a specimen removed from USNM 44232, ALBATROSS sta. 2397 in 1892, was given to the Stanford University collections. This specimen, SU 9511, is in the general collections and was not listed by Böhlke (1953) in the type material of Stanford. The specimen is *P. greyae*, as are others in the USNM collections from this station.

Teague's (1961:13-14) description of *P. longispatha* is a composite of three species. In addition to the holotype of *P. longispatha*, he used specimens of *P. imberbe* (MCZ 28022) and *P. greyae* (USNM 117051 and USNM 210952).

In his discussion of *P. bartschi*, Teague (1961:13) seriously questioned whether rostral exsertion and nasal spines are present in juveniles (USNM 46031) and are vestigial or obsolete in the adults (USNM 93186 and USNM 158161). I identify his specimens labelled *P. bartschi* as *P. longispatha*. Ontogenetic changes in rostral exsertion and nasal spines are found not only in *P. longispatha* but also in *P. schmitti*. The changes in spination apparently confused Teague (1961:5, 17), for in his key to the peristediid species he separated *P. schmitti* from *P. altipinnis* Regan, 1903, by the presence of rostral exsertion and nasal spines on *P. schmitti*, whereas in his type description of *P. schmitti* he listed the rostral exsertion spines as usually absent or vestigial, and the nasal spines as usually absent. The validity of the species in the *P. roseum* Miranda-Ribeiro, 1903—*P. altipinnis-P. schmitti* group remains to be resolved.

Myers (1934:10-12, Fig. 2) described *P. bartschi* apparently without comparing his holotype to the holotype of *P. longispatha*. In dorsal view, the head of the holotype of *P. longispatha* (Fig. 7), does not differ from that of *P. bartschi* in the characters used by Myers to separate the two species. I speculate that Myers compared his holotype with specimens of *P. greyae* which were incorrectly identified as *P. longispatha*, because *P. greyae* differs from *P. bartschi* in the same ways that Myers says *P. longispatha* differs from *P. bartschi*. I consider *P. bartschi* to be a junior synonym of *P. longispatha*.

Peristediids commonly collected off southern Florida and reported as *P. longispatha* by Longley & Hildebrand (1941:169) are probably all *P.*

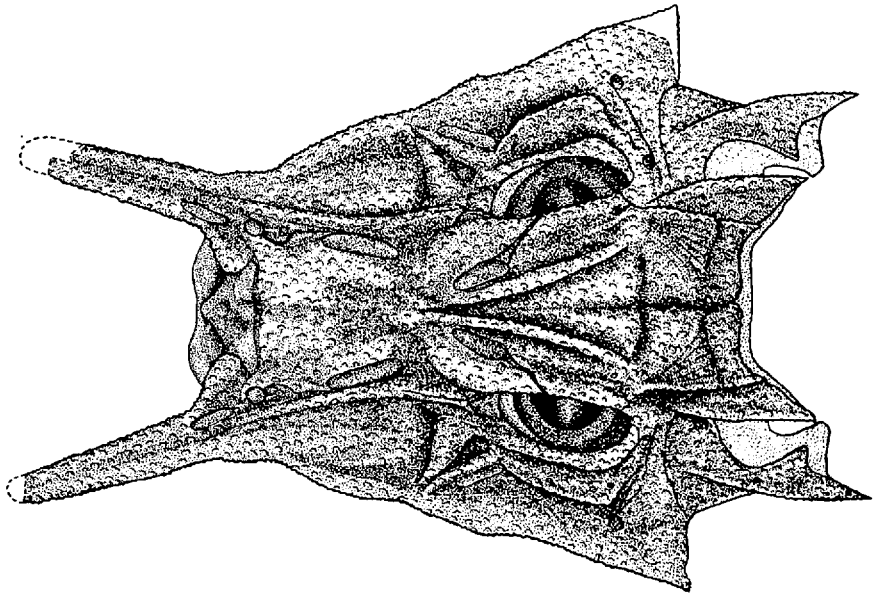

FIGURE 7. *Peristedion longispatha*, holotype, MCZ 28009. Dorsal view of head.

greyae. This premise is based on the following: (1) Longley & Hildebrand were aware of the good description and illustration of *P. bartschi* by Myers, and they would have identified similar specimens as this species; (2) specimens collected by Longley and identified as *P. longispatha* were deposited in the U. S. National Museum (USNM 92039, 92065, 117050, 117051, and 117052) and the British Museum (Natural History) (BMNH 1933.10.12.101-104), but only USNM 117052 was labeled as identified by Longley (all have been reidentified as *P. greyae*); and (3) observations on and description of *P. longispatha* by Hildebrand in Longley & Hildebrand (1941:169) were those of *P. greyae*. *P. longispatha* differs from Hildebrand's description in that it has not been commonly collected (fewer than 100 specimens are known in five major collections in the United States) and is known primarily from the Caribbean; the tip of the pectoral fin and its free rays do not reach the anal origin; it has a reticulated color pattern on the body and a dusky or black pectoral fin; and it has shorter, broader, diverging rostral exsertions. The peristediid identified as *P. longispatha* by Longley, upon which Chan (1941) based a histological study of the alimentary tract, was probably *P. greyae*.

Springer & Bullis (1956:91) reported that *P. longispatha* was taken at 21 OREGON stations in the Gulf of Mexico. I have examined material

identified as *P. longispatha* from over half of these 21 stations, deposited in various museums; all are *P. greyae*; and I speculate that most, if not all, of the peristediids reported as *P. longispatha* by Springer & Bullis are *P. greyae*.

In summary, the type series of *P. longispatha* consists of 15 specimens of four species from five stations, *P. longispatha* (2 specimens), *P. antillarum* (2 specimens), *P. greyae* (10 specimens), and *P. imberbe* (1 specimen). *P. bartschi* is conspecific with *P. longispatha*. Specimens which I examined that were deposited in museums by Longley & Hildebrand and identified as *P. longispatha* are *P. greyae*. The occurrence of *P. longispatha* in the Gulf of Mexico in the species station list by Springer & Bullis (1956: 91) is probably incorrect, as specimens I examined from over half of the stations involved are *P. greyae*.

Relationships.—The three closely related species (based on anatomy) most likely to be confused with *P. greyae* are *P. truncatum* (Günther, 1880), *P. longispatha*, and *P. antillarum*. They may be readily distinguished from *P. greyae* as follows: *P. truncatum*, by the greater number of chin barbels, single, serrated ridge on the mandible, and strongly serrated opercular ridge; *P. longispatha*, by the wide head and rostrum, strongly diverging rostral exsertions, fewer lip barbels, and a shorter pectoral fin; and *P. antillarum*, by the narrow head, extremely long, slender rostral exsertions, and fewer lip and chin barbels.

The holotype of *P. spiniger* Longley & Hildebrand (1940) was examined and its anatomy is extremely similar to the illustrations of the holotype of *P. truncatum*. Teague (1961:5) was able to separate *P. truncatum* from *P. spiniger* only by the small difference in the number of chin barbels and the presence of accessory scutes beneath the inferomedian series in *P. spiniger*. I consider *P. spiniger* to be a junior synonym of *P. truncatum*, as the barbel counts given by Teague for *P. spiniger* fall within the range for *P. truncatum*, and the number of accessory scutes in *P. truncatum* examined varied from 0 to 3.

Peristedion ecuadorensis described by Teague (1961:10-11, Pl. 1) was inappropriately named, as it does not occur in the eastern Pacific, but is relatively common in the western Atlantic. When the specimens of the type series were originally cataloged in the U. S. National Museum collections, the locality data were incorrectly recorded for the ALBATROSS hydrographic sta. 2624 (from the Pacific) rather than from the ALBATROSS dredge-trawl sta. 2624 (Atlantic). The correct data for the type series of *P. ecuadorensis* are ALBATROSS dredge-trawl sta. 2624, 32°36′N, 77°29′15″W, in 258 fathoms (472 m), off Charleston, South Carolina, on October 21, 1885.

SUMARIO

NUEVA ESPECIE DE LA FAMILIA PERISTEDIIDAE EN EL ATLÁNTICO OCCIDENTAL, *Peristedion greyae*

Ejemplares del Atlántico Occidental, que habían sido identificados en el pasado como *Peristedion longispatha*, son diagnosticados como una nueva especie. Se discuten las razones por las que ejemplares de *P. greyae* han sido identificados como *P. longispatha*. Los cambios taxonómicos hechos son: *Acanthostedion* es congenérico con *Satyrichthys*; *Peristedion spiniger* es conespecífico con *P. truncatum, P. bartschi* con *P. longispatha, P. taeniopterum* con *P. gracile, P. mcgintyi* con *P. miniatum* y *P. schmitti* con *P. thompsoni*. Se propone el nombre "acanthostedion" para describir los estados postlarvales de los peristedios. La localidad tipo de *P. ecuadorensis* para el Océano Pacífico es incorrecta, la especie en el presente es únicamente conocida en el Atlántico Occidental.

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